

# **REQUIREMENT MODEL FOR SCHOOL ONLINE EXAMINATION SYSTEM**

A thesis submitted to the Graduate School in partial fulfilment of the  
requirements for the award of the degree Master of Science  
(Information and Communication Technology) in the Faculty of  
Information Technology, Universiti Utara Malaysia

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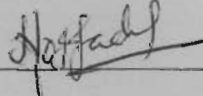
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## ABSTRAK

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*Sistem Peperiksaan Dalam Talian bagi ujian aneka pilihan merupakan penyelesaian terbaik bagi sesebuah sekolah. Sistem ini juga menyediakan satu penyelesaian yang dinamik dimana ia dapat menjimatkan masa ketika proses penyediaan kertas peperiksaan, penandaan atau pemarkahan secara automatik dan juga satu kaedah mengurangkan penggunaan kertas. Kajian ini dibuat untuk menghasilkan satu prototaip Sistem Peperiksaan Dalam Talian untuk Sekolah Menengah Sultan Abdul Halim. Pembangunan prototaip ini diharapkan dapat menggantikan kaedah tradisional dalam pengurusan peperiksaan, yang mana cara tradisional ini memberi beban kerja kepada guru dan juga setiausaha peperiksaan. Unified Modeling Language (UML) telah digunakan dalam kajian ini untuk merekabentuk model Sistem Peperiksaan berasaskan talian. Tiga fasa utama iaitu fasa mengenalpasti keperluan, menganalisis keperluan dan pengesahan model keperluan telah digunakan sepanjang kajian ini dijalankan. Disamping itu, satu model peperiksaan berasaskan talian telah dibangunkan sebagai satu kaedah pengesahan keperluan pengguna. Kajian ini diakhiri dengan membuat rumusan terhadap penemuan dan pencapaian disamping mengesyorkan beberapa cadangan untuk kajian yang lebih lanjut pada masa akan datang.*

## ABSTRACT

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*The School Online Examination System for multiple-choice questions is an appropriate solution for School to manage the examination. This system offers a dynamic solution where it can save the time to prepare the examination papers, evaluate the examination automatically and paperless. This study was carried out in order to produce a requirement model for Online Examination System for Sekolah Menengah Sultan Abdul Halim. The Unified Modeling Language (UML) has been used in the research to design the requirement model of School Online Examination System. There are three main phases involved in the study, which are, define requirement, analyse requirement and validate requirement. Upon completion, a prototype was developed based on the model. In addition, the prototype of examination system is also used to validate the user's requirements. This study has concluded by summarising the overall results and achievements. There are some recommendations for future work also presented.*

## ACKNOWLEDGMENT

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## LIST OF ABBREVIATIONS

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DBMS	Database Management System
ELF	e-Learning Framework
ERMS	Electronic Records Management System
eSIS	Student Information System
Frema	Framework Reference Model for Assessment
HTML	HyperText Markup Language
ICT	Information and Communication Technology
ISIS	Integrated Student Information System
IT	Information Technology
LAN	Local area network
MoE	Malaysian Ministry of Education
MoReq	Model requirement for the management of electronic records
MSC	Multimedia Super Corridor
ODBC	Open Database Connectivity
R&D	Research and Development Cluster
SIMS	Student Information Management System
SMSAH	Sekolah Menengah Sultan Abdul Halim
SOES	School Online Examination System
UML	Unified Modeling Language

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Overview

The Multimedia Super Corridor (MSC) began its operations in 1999 to develop Malaysia into a regional and international technology and telecommunications hub by 2020. The seven (7) flagship applications registered under the Multimedia Super Corridor are Electronic Government (E-Government), Multipurpose Card, Smart School, Telehealth, Research and Development Cluster (R&D Cluster), Technopreneur Development, and Electronic Business (E-Business) (*The MSC Malaysia Flagship Application*, 2006).

Based on critical and creative teaching and learning, the Ministry of Education (MoE) planned the Smart School concept. Smart School is a learning institution that has been systemically reinvented in terms of teaching and learning and school management processes in order to help students cope with the Information Age. According to Tamrin (2003b), Smart Schools have become one of the seven flagship applications in order to make the younger Malaysian generation more literate. The objectives of the Smart School, which are based on Malaysia's National Philosophy of Education, are as follows:

- to produce a thinking and technology-literate workforce,
- to democratise education,
- to increase participation of stakeholders, and

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